

Resilient Coral Reefs Successfully Adapting to Climate Change



The Commonwealth Government has committed \$12.5 million through the Great Barrier Reef Foundation towards a 4 year program of research, which commenced 1 July 2013.



**Great Barrier
Reef Foundation**

The over-arching goal of the Program is the provision of knowledge to inform management of the Reef in the face of a changing and increasingly variable climate. In particular it will seek to:

- Increase knowledge of factors determining resilience and adaptive capacity of the Reef ecosystem to climate change.
- Increase the capacity of Reef managers to maximise reef resilience and adaptive capacity through application of research outcomes.

The Program is based on a review and gap analysis of the Great Barrier Reef Foundation's research portfolio, "Resilient Reefs Successfully Adapting to Climate Change". This portfolio maps out research that will equip reef managers with measures of how the Reef is responding to climate change, a suite of potential intervention strategies and decision support and communication tools that will enable them to respond as climate change impacts on the Reef grow.

The projects funded within the Program will focus on: better defining the attributes of a Reef ecosystem that is resilient to climate change; testing the feasibility of minimising the impacts of climate change on the ecosystem; and increasing the adaptive capacity of the ecosystem to climate change.

Priority areas identified in the program include:

- Attributes – the indicators which will help managers measure how the Reef is responding to climate change. Research on 4 priority attributes – coral health, calcification, seagrass and habitat complex – has been funded.
- Genomics – translating the core genetic data generated by the Sea- quence project for use in projects to understand the capacity of corals and their associated symbionts and microbes to adapt in the face of climate change.
- Ocean Acidification – building on existing research on the impacts of ocean acidification on coral reefs, the 5 projects funded in this program, begin a solutions-focussed approach to ocean acidification.
- Integration – extending the eReefs project which will provide important decision-support tools for Reef managers in relation to biophysical information and the development of socio-economic tools.

As of December 2014, a total of 20 projects have been funded across one, two and three years.

The above priority areas of investment build on existing investments by the



Foundation. Note: The Foundation believes efforts to mitigate the severity of climate change are essential. However, irrespective of these efforts, there must be effective adaptation to changes in the ecosystem which are already occurring and to which we are already committed through existing emissions in Australia and globally.

The research program explores both how we can enhance the natural resilience of the Reef in the face of climate change alongside what may need to be done in the future to assist the adaptation process.

It is hoped that more interventionist approaches never need to be deployed, but in the face of increasing pressures on the Reef and the continued decline of coral reefs globally, the Foundation supports a pro-active approach. This will enable Reef managers to deploy the measures necessary to preserve our Reef, with a full understanding of the opportunities and limitations of such approaches.

eReef is a collaboration between



Great Barrier
Reef Foundation™



Australian Government
Bureau of Meteorology



Australian Government



AUSTRALIAN INSTITUTE
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